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In semi-colonial and semi-feudal Old China, it is generally known that basic heavy industry was almost non-existent, and scientific work was used only as a show piece of the reactionary governing class. Although some scientists worked assiduously at that time, no real creative work had ever been done, since there was little support and encouragement from the government.

Under the auspices of the great Chinese Communist Party, our people have succeeded in abolishing imperialism, feudalism, and bureaucratic capitalism, and establishing a new China. During the past decade, the progress of Chinese science, like many other constructive affairs, has been unprecedented.

The scientific research organizations were expanded and increased. The number of scientists was multiplied. Many important scientific accomplishments had been attained. Now, scientific researches of China are booming, and have a very bright future, and Chinese chemistry is by no means an exception.

Immediately after the Liberation, there were only a few chemical research centers left by the reactionary government, such as the Chemical Institute of the Central Academy, and the Chemical Institute and the Pharmacological Institute of the Peiping Academy. The total staff in these three institutes was barely over forty.

Nowadays, we have the following chemical research centers under the Academia Sinica: the Chemical Institute, the Institute of Applied Chemistry, the Institute of Organic Chemistry, the Institute of Materia Medica, Wuhan Chemical Institute, Sian Chemical Institute, Lanchow Chemical Institute, and Canton Applied Chemical Institute.

There are also many other organizations that are carrying on chemical researches, such as the Institute of Petroleum, the Institute of Metallurgy and Ceramics, the Institute of Industrial Metallurgy and the Biochemical Institute. Besides these, most of the local branches of Academia Sinica have their own chemistry departments to deal with the chemical problems of the local industry.

At the time of Liberation, there were only two research centers for industrial chemistry in China. Now, we have independent research laboratories in each of our industrial and agricultural departments, bureaus, and provisional divisions. The mining industries have their central laboratories, and the Department of Chemical Industry has several institutes of industrial chemistry. There are also many research units in the departments of steel, nonferrous metals, petroleum, geology, health, and light industries. They carry on a large amount of chemical works.

Before Liberation, there were only several score of students in each chemistry department of the comprehensive universities. We have now almost one thousand students in each of those departments, excluding the chemistry departments of the engineering colleges. There is a considerable improvement in teaching methods, and an increase in research activities.

In observance of the Party directives that all acientists should be encouraged to apply their studies in a practical way to help our national economic reconstruction, the Chinese chemists have contributed a great deal in our industrial rehabilitation and in the First Five-year Plan. They have also trained many young scientists, and thus have laid a foundation for the development of our scientific research.

The Chinese scientists, complying with the Twelve-year Scientific and Technical Development Program promulgated in 1956, have successfully applied their research to the

need of national construction without neglecting their long range development of the basic research. They coördinated all scientific research of institutes, universities, and industries under a unified plan, and made many achievements in 1958--the Great Leap Forward Year.

Their enthusiasm in cooperating with the whole nation to build up a socialist country has been greatly enhanced. The different research units have worked together closer than ever. Undoubtedly, scientific research of China will continue to grow rapidly.

The advance of Chinese science during the past ten years was not confined in a few narrow fields, but along the entire front. Therefore, this article will deal with the overall picture of the progress of Chinese chemistry in the past decade rather than any particular accomplishment or success. It is hoped that this article will bring forth a better appreciation of the scope as well as the speed of our progress.

In Old China, the study of inorganic and analytical chemistry was not very intensive. Now, in response to the need of socialist construction, we have concentrated our efforts in developing a comprehensive utilization of all mineral resources. A large amount of study on the analytic methods of complex minerals, ferrous and non-ferrous metals has been carried out in the divisions of geology, metallurgy, and machinery of different productive and industrial departments, Academia Sinica, and universities.

Since 1956, the analyses and extraction of rare elements and rare earths have become the main projects in some of these institutes. The northwest salt lakes have been the objects of a comprehensive investigation by the departments of chemistry, geology, and light industries. The preparation of semi-conductor materials, such as pure germanium and silicon, has already been started. The isolation of stable isotopes and the the application of tracer atoms have been studied.

There have been certain achievements in both the theoretical and practical aspects of these fields. For instance, in the rare element analyses, we have used various physicochemical methods, including spectroscopy, polarigraphy, colorimetry, spectrophotometry, fluorometry, and poten-

tiometric and galvanometric titration, in addition to the ordinary chemical analyses. A thorough analysis has been done respectively on each of the important minerals, such as tungstate, molybdate, rare elements, and rare earths.

In these analyses, fractional crystallization and ionic exchange methods have been applied. Rare elements and rare earths have been satisfactorily separated and extracted from certain important minerals. In fact, we have obtained fourteen different rare earths and yttrium oxides which are spectrophotometrically pure. These new methods, which were unknown in Old China, have been extensively adopted and improved by many of our research and industrial laboratories.

By means of polarigraphy, we can detect a trace quantity, as low as 10^{-7} gram of iron, titanium, and aluninum in the "pure" silicon. A relatively systematic analysis of the mixed rare earths by spectroscopy has been done, and we have found a new method which is simpler, more sensitive, and takes a lesser amount of reagents. We have also developed an electronic apparatus for polarization titration in the electrochemical analyses. It has a sensitivity andpotential regulating device, and can be adapted for oxidation-reduction titration.

We have discussed in detail the theory of double-reading, potentiometric and galvanometric titration, the so-called "permanent fixation method", and derived and experimentally proved the equations for the electrical current determination at different levels of titration.

In the spectroscopical analyses, we have applied various primary elements and environments to influence the sequence of the elemental evaporation and excitation in the testing material, and to prevent any interference of the third element. In colorimetry and spectrophotometry, we accentuated and stabilized the peaks of absorption for the material to be tested by proper chemical treatment, pH adjustment, solvent extration, or using a certain complex to mask the interfering element. We have partially improved the methods of isolation of rare earths by ionic exchange, and thus enhanced the efficiency of separation.

We have also made many important contributions in the basic inorganic industrial chemistry, including acids, alkali, and fertilizers.

Before Liberation, there were some accomplishments in classical and natural organic chemistry in Old China, but none in organic syntheses and element organic chemistry.

Due to the development of the power, organic, and metallurgical industries, an abundance of fuel minerals, such as coal, shale oil, petroleum, and natural gas have been discovered in China. These discoveries have opened a broad challenging field for the Chinese organic chemists to make a comprehensive utilization of these resources. The Institute of Chemical Industry has synthesized a series of organic raw materials and dyes from coal. Many other institutes and universities have been studying organic syntheses of compounds from acetylene, benzene, phenol, alcohols, furfural, petroleum gas, and natural gas.

The chemistry of liquid fuel was entirely new in Old China; however, it has been well developed in our country during the past ten years. A considerable amount of work has been done on the analyses, separation, and refining processes of natural petroleum and shale oil. Various physicochemical methods, including fine fractional distillation, gas-liquid chromatography, and spectra of ultraviolet ray, infrared ray, and "combined scattered ray," have been applied in the systematic analyses of petroleum, shale oil, and gas tar.

Many high-quality liquid fuels and chemical products have been manufactured from these materials through further processes of catalytic cracking, catalytic conversion, and hydrogenation under high, medium, and low pressures. We have discovered a highly efficient ferrous catalyst for the synthesis of water gas.

The above-mentioned works have aroused our interest in the methods of physicochemical analysis, petroleum chemistry, and the study of the mechanisms of organic syntheses and catalyses. The techniques of gas chromatography and gas-liquid chromatography and gas-liquid chromatography were first introduced to us by a group of young scientists who were studying the analysis and separation of liquid fuels.

Now, these techniques are not only generally adopted by different research laboratories, but also receive more advanced theoretical treatment, and become electrically automatonized. As we have become versed with the properties of catalysts and the mechanism of catalyses in petroleum refining, we have done some works of theoretical and practical significance on chemical kinetics of catalytic cracking, alkylation, and aromatization.

Although there were some achievements in research on natural organic compounds in Old China, our present study of these compounds is quite different from the past in objective, scale, scope and organization. Under the reactionary government, many old chemists worked individually in unfavorable conditions on the efficacious ingredients of Chinese herb medicine with some success.

However, the reactionary government left their study in the waste basket. Our government, on the contrary, has recognized the importance of natural organic resources to people's health, and their productive power. Thus, an extensive investigation and production of antibiotics, steroids, alkaloids, and terpenes has been launched. After a few years of such combined effort, the problems of producing penicillin, chloromycetin, aureomycin, and streptomycin have been finally solved.

The prepartions of newer antibiotics, such as neomycin, terramycin, and albamycin, and over ten kinds of hormones, such as progresterone, methyl testosterone, and cortisone are still in the experimental stage.

We also have done much work on extraction of organic compounds from the natural products, and then their structures and syntheses. We have established the structures of permine, santonin, and citronin, and synthesized some genins. The relation between the chemical structures of the drug and its physiological effect has been investigated in order to improve its theraputic efficacy.

Before the Liberation, there were only a few research reports on elements of organic chemistry in China, such as the Grignard reaction and the preparation of organic arsenic compounds. However, after the Liberation, this branch of chemistry has become well developed through the encouragement of the new government.

Since the Central Committee of the Chinese Communist Party proclaimed their intention in 1955 to eradicate schistosomiasis in China within seven to twelve years, the research on organic antimony compounds has been rapdily advanced. In the past ten years, the chemical institutes and the medical institutes have made a great progress in the treatment of schistosomiasis through their close co-operation in syntheses, clinical application, and production of schistosomiacides.

Seven hundred sixty thousand patients infected with schistosomiasis were treated with tartar emetics from 1950 to 1957, and 90 percent of them were completely cured. Six hundred thousand black fever patients were treated with antimony sodium gluconate, and 97.4 percent of them were permenently cured. Through a systematic experiment of the molecular alterations of the drugs to enhance their efficacy and lower their toxicity, several hundred new organic antimony compounds have been synthesized. Some of them have been proved to be more efficacious and less toxic than tartar emetic.

The National Program of Agriculture Development for 1956-1967 proclaimed to eradicate all agricultural insects and diseases in seven to twelve years. This object has opened a new chapter of research on phosphorganic chemistry in China.

A series of well-established phosphorganic insecticides were synthesized by the universities, and the agricultural and chemical laboratories. From the investigation of the relation between chemical structure and physiological effect of the drugs, over twenty new phosphorganic compounds had been synthesized during the past few years. Their insecticidal properties have been tested. Among them, ethyl mercuric chloride and phenyl mercuric acetate were experimental in 1953, and the fungal infection of wheat and kaoliang was markedly reduced.

In the field of high molecular chemistry, we have prepared the isolated organic compounds of silicon and fluroine, and made some improvements in the method of preparing the unit silicon organic compounds.

The high molecular compounds have a very broad application and are multiple in variety. To produce these

compounds on an industrial scale, the unit molecules are initially synthesized, and then polymerized. After these polymers have undergone further treatments and molding, their properties are determined. Thus, the preparation of polymers involves many practical as well as theoretical problems. These problems have indeed challenged the ingenuity of our scientists and engineers.

Since high molecular chemistry is a relatively new branch of science, most of its applied techniques and theories were practially unknown to us, and we had to start from the elementary stage to learn the procedure of preparing these polymers. Due to the proper guidance and encouragement of the Chinese Communist Party and the People's Government, the chemists of Academia Sinica, industrial departments, and colleges had shown their highest enthusiasm, and through their cooperation had made outstanding progress in the production of many important high molecular compounds.

Many high molecular synthetic compounds have been investigated. Among them, some are already very important industrial products in the foreign countries, such as olefine polymers of methyl ester of methyl acrylic acid, polychlorethylene, polyethylene, and polystyrene. Among the diolefines, there are butyl benzene rubger, chloroprene rubber, arsenoprene rubber.

In the polyamides, there are polyadipicurethane, and polyamides 6, 66, 9, 11, etc. In the polyesters, there are polyesters of glycol terephthalate, and alcohol resinates.

There are also phenol-aldehyde resin, urea-formaldehyde resin, epoxy-resin, polysulfur rubber, strong and weak cation and anion exchange resin, and polysilicoxoalkane. The above-mentioned chemicals have passed their laboratory preparatory stage. Some of them are in the process of an intermediate or a small-scale production.

We have not only mastered methods which are well-known all over the world, but also contributed something new. For instance, in the preparation of the ion exchange resin, we have studied the structure of high molecular compounds, and the products which we intended to isolate, and produced a non-swelling resin of high purification efficiency. We

have also begun to study the other elements of macromolecule anisotropic polymerization, macromolecules of specific properties, and modification of macromolecular properties through irradiation.

In the syntheses of unit molecules, and their polymeriazation and condensation, we studied the chemical composition and preparation of the catalysts and their catalytic effect. The catalytic mechanism and kinetics have also been dealt with in order to control the reaction. In the study of emulsion polymerization, we have made some preliminary investigations of the water soluble and the water insoluble unit molecules, and certain important reactions of polymerization.

In the study of condensation and kinetics, we studied the kinetics of condensation of dimethyl dihydroxyl silicalkanes, and proved that this compound is in equilibrium with symmetrical tetramethyl dihydroxyl silicoxalkane. The study on the polymerization of adipicurethane helped us to understand the intermediate stages of this reaction, such as chain exchange.

A series of works have been done on the relation between the molecular structure and reaction constant of ester polymerization and progressional reaction, as well as solidification of the polymers. The findings from these works have settled many controversies among the chemists of the world.

The research on the structure and property of macromolecules bears an important significance in the production, treatment, and molding of the polymers. Since the high molecular system is far more complicated than the low molecular system, we had to study not only the immediate structure of these macromolecules, but also the advanced and progressional structures. In this respect, our chemists had done the following works:

(1) Determination of the internal and external double bonds of macromolecules by peroxide of benzoic acid.

(2) Theory of the internal rotation of macromolecules, and formulae that are not limited by the function of internal rotation.

(3) Determination of the electrocuple of macromolecules.

(4) Determination of molecular weight and its distribution by titration, measurement of viscosity and osmotic pressure, and ultracentrifugal sedimentation.

(5) Study on the relation between the macromolecular structure and its mechanical properties and crystalline tropism by measurement of plasticity, and infrared spectrum. Some significant results had been obtained from these researches. Among these works, the determination of molecular weight of the macromolecules and the study of the properties of solutions were more systematic, and outstanding whether in the experimental methods and results or in theoretical analysis.

(6) Results of practical significance had also been obtained from the studies of the mechanical, electrical, and optical properties of the macromolecules, and the effects of heat treatment and vulcanization upon these properties.

For the exploitation of our abundant natural macromolecular resources, our chemists cooperated with the scientists of the departments of biology, engineering, agriculture, and industry in carrying out extensive investigations. More than thirty varieties and species of natural rubber plants had been identified and studied.

The more important ones, such as three-leaf rubber tree, and Eucommia ulmoides, oliv., had been extensively planted, their products have been analysed and extracted, and finally their properties determined. This great amount of work demonstrates the advance of our high molecular chemistry.

Since our country is short of lumber, the utilization of the abundant natural resource of grass has become very important. After our chemists successfully solved the problem of paper pulp supply in 1955, they began to develop a mass production of synthetic fiber pulp from over twenty different varieties of grass cellulose, including bagasse, reeds, soy bean stems, wheat stalks, rice stalks, cotton down, and bamboo.

At the same time, the pulps prepared by different chemical processes have been tested and analyzed in terms of

their cellulose morphology, degree of fiber disruption, chemical composition, polymerization distribution, and supramolecular structure. The effects of processing, pulp treatment, and filtration upon these physicochemical properties have been correlated and studied.

An improved method to make better synthetic fiber pulp from certain types of grass cellulose has been invented, and a better understanding of the structural difference between wood cellulose and grass cellulose has been attained. Incidentally, our chemists have also done some research on cellulose derivatives.

Chinese varnish and tung oil are our important natural high molecular resources. Our chemists have analyzed and determined on an extensive scale the properties of many raw varnishes and tung oils from different places. The action of varnish enzymes on varnish pnenols has been studied. Raw varnish and plastics.

Physical chemistry is the science which deals with the structure and properties of matter and the basic rules of its chemical changes. Therefore, it is a powerful instrument in solving the inorganic, organic and macromolecular problems. Conversely, the contents of physical chemistry become enriched through these studies. This is true in our experiences with the large amount of research described previously, and we have opened a new front of physical chemistry which combines theory and practice.

In the study of rare element analysis and extraction, we have done some work on physicochemical analyses, the composition and structure of complexes, and determination of equilibrium constants. In view of the fact that there is an urgent need to have a better understanding of the complex chemistry by research workers in many different fields, our chemists have developed a series of significant and systematic research on complex chemistry.

For example, the pH method has been used to determine the equilibrium constants of EDTA and alkali earth chelating reagents in the mixture of water and dioxan. In the determination of electrolytic constants of monocarboxylic, dicarboxylic and polycarbosylic acids and the complex constants of their combinations with divalent cations, we have concluded that all carboxylic radicals form complexes

with the cations of metals, including those of alkali earths.

Therefore, in the determination of the electrolytic constants of carboxylic acids, it has to be carried out in the quarternary ammonium solutions rather than potssium or sodium solutions. A revised determination and calculation of the electrolytic constants of several carboxylic acids and the complex constants of their combinations with cations of alkali metals and alkali earth.

We have used the methods of optical rotation, spectral absorption, and light refraction to study the complexes of copper, iron, nickel, and cobalt with tartaric acid in various molar ratios. Spectrophotometry, polarography, including potentiometry, and solubility have been adopted to carry out a theoretical and systematic treatment of the complex solutions.

We have derived some basic equations for the equilibrium constants of complex ions at different stages of reaction, which apply not only to a system of two coexisting complexes, but also to polynuclear complexes. These equations have been applied in reviewing the data obtained from many complex experiments. The theory of complex equilibrium in the solution is developed from the initial observation that the complex reaction in solution is rather similar to adsorption.

Physicochemical research on the high molecules is included in the systematic studies of macromolecular structure. As regards quantum chemistry and molecular structure, other than the theoretical equations of mean-squares of the terminal couples of macromolecules as previously described, we have calculated the intro-and inter-molecular forces, including the Van der Waals force and hydrogen bonding.

We have also done some work on the basic theories of quantum mechanics, the integration of multicenters of molecular structure, and application and extension of group theory to the locus function of heterogeneous atoms.

As regards the study of properties and theories of solutions, in addition to the research on equilibrium of organic and inorganic systems and electricl conduction of

solutions, we have done some systematic work on the relation of structures of solution and the salting effect.

We have qualitatively explained that the salting effect is an expression of the difference of the electrostatic force between the ions and water molecules and the repulsive force between the ions and nonpolar molecules.

In the study of crystal structures, we have worked on the crystal structures of nickel d,l-aminopropionate tetrahydrate, EDTA, grape stones, sodium silicate, the intermediate products of benzyl cyanide, the Stephen reaction, and the additional compounds of propenal and sodium bisulphate. The crystal constants of the complex of copper tartrate trihydrate, and the random structure of nickel hexammonium nitrate have also been determined.

The work on the structural identification of organic compounds, analyses of liquid fuel, and macromolecular structure has aroused our interest in the molecular spectrum. There was no infrared research in China before the Liberation. However, since two years ago, we have acquired about ten double-ray infrared spectrophotometers for research use.

As a result of our advances in organic syntheses especially those of liquid fuels and macromolecules, our chemists have had an opportunity to become familiar with various catalysts, catalyses and free radical reactions, and thus have contributed a great deal in catalyses and catalytic kinetics. For instance, in the catalytic refining of petroleum, we have studied the kinetics of petroleum hydrocarbon catalyses, and the concept of reaction rate and reaction time in a flowing system.

We have thus clarified numerous controversies in the kinetic formulae of a flowing system. In a multiphase catalysis, the problem of transfer of complex materials has to be considered. From the research on kinetics of catalyses and cracking of isopropyl radicals, the effect of internal diffusion and external diffusion upon kinetics has been elucidated.

With respect to dehydrogenation and cyclization of the straight chain alkanes and alkenes, we have studied the effect of composition and reaction of the catalyses upon

the rate of aromatization and carbon precipitation. We have also studied the kinetics of hydrogenation and isomerization of benzene under high pressure in the flowing system.

As regards syntheses of organic and macromolecules, besides the above-mentioned studies on the kinetics of polymerization and condensation, we have investigaged the catalytic mechanism of hydrogen ion in esterification, and the kinetics of peroxides of methyl ester of methyl acrylic acid. In the combined sulfuric acid industries, we have studied the kinetics of catalytic oxidation of sulfur dioxide by vanadium, and have discussed the influence of material transfer upon kinetics.

From these studies, we have derived equations of kinetics of catalysts which are used in the industry to bypass the process of material transfer.

Furthermore, we have studied the saponification rate of acetic acid and ethyl ester in the aqueous solution of dioxane in order to prove the effect of the medium upon the reactivity of polarized molecules and ion. We have also studied the effect of solvent on the kinetics of the Menshutskin Reaction, the rate of gel formation of silicate solution in a broad pH range, the photosensitization and oxidation of sulfur dioxide from the atmosphere of industrial areas at various humidities, the kinetics of combination methylaniline and p-nitrophenol by means of spectrophotometry. All of these studies have produced some results of theoretical and practical significance.

Colloid chemistry is a science dealing with the laws which govern the interphase reaction of substances in a colloid system. It has a very broad scope. A great majority of the above-mentioned works, including those on catalyses, catalysts, spectrum, and macromolecular solutions, belong to this branch of chemistry.

In response to our national need, we have developed a series of works in colloid chemistry, such as gas adsorption, solution adsorption, adsorption thermodynamics and surface chemistry of catalysts. In assisting the studies on soils and fertilizers, we have begun the study on ion-exchange of soils.

In the studies of soil erosion and solidification, we have worked on the precipitation of soil in water, soil dynamics and metamorphosis, gel formation of silicates, and the rate of oil separation in colloid system of lubricants.

After Liberation, the development of electrochemical industries, chemical electrical supply, and preventive measures of metal corrosion has promoted numerous researches on electrochemistry. New industries such as the electrolytic preparation of soda, chlorine, and potassium chlorate, and of hydrogen peroxide from persulphate have been built up. The chemical electrical source has been greatly increased.

Compared to the pre-Liberation era, our new products have been increased twenty-two folds in varieties, and fifteen folds in quantity, and the size of our staff and technicians has been increased ten times. We have established many experimental stations on metal corrosion at different locations over the country in order to collect data on corrosive behavior of different metals at different places and in different media.

The electrical plating industry has also been rapidly developed. The anti-corrosive coating, such as phosphorylated coating and anode oxidation coating over aluminum have been extensively adopted, and many effective anti-corrosive reagents have been produced.

During socialist construction, our scientists have contributed not only to solution of practical problems, but also to theoretical investigation, especially on electrode polarization. In cooperation with the electrolytic oxidation engineers, we have done some advanced studies on the mechanisms and interrelationship of two simultaneous anode formations of oxygen and of persulfuric ions.

We have proved from the data of direct kinetic study that these are two independent electrochemical processes. The adsorption of oxygen and some other cations on the platinum electrode may drastically decrease the oxygen formation, but will not affect the anode formation of persulfuric ions. Thus a favorable electrode process is assured.

This discovery not only has its theoretical significance, but also helps enhance the electrical efficiency of the industries. In the search of anti-corrosives, we have used electrochemical methods to study the anti-corrosive as well as corrosive mechanisms of some organic additives, halogen ions and cations, including $Ag^{\pm}$, Cu^{++}, Fe^{+++}, etc., against iron and stainless steel.

We have also studied the electrical plating of antimony and its anti-corrosive effect. We have determined the effect of cations upon anode polarization during antimony plating, and improved the conditions for antimony plating.

Besides, we have investigated the polarization of antimony in different media and determined its zero load. In the study of the theory of polarization, the work on autocatalysis of the iodinate ion during electrolytic reduction should be mentioned. Through mathematical analysis, we have derived and experimentally proved the differential equations for an elcuidation of concentration variation of reaction intermediates on the electrode surface.

It is impossible to cover all aspects of the progress of Chinese chemistry during the past decade in this bried article. However, we do gain a glimpse of the scope and speed of Chinese chemical development in this period.

We feel assured that Chinese chemical work is no longer a show piece of the government, but an important working unit in the national revolutionary reconstruction. The chemists are no longer working individually in some narrow fields, but join a grand army of scientists under the leadership of the Chinese Communist Party and People's Government to march forward in the expansive field of chemistry.

Although the progress of Chinese chemistry has been very rapid in the past ten years, it is just a beginning. Our accomplishments so far still do not meet our national demand. We still lack systematic creative work, and theoretical development. We have not yet built up a sound system for our chemistry, and there are still many shortcomings.

From now on, we have to set as our goal to learn from other countries, especially the Soviet Union, their accomplishments in chemistry. At the same time, we should also

learn from our own experiences and practices in socialism reconstruction. Only by thus doing can we establish a system of chemistry which will fit into the practical situation of our country, and we may contribute some chemical works of international significance. This is a gigantic and glorious duty of our chemists, and we are confident we shall carry out this mission under the leadership of the Party and the People's Government.

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